A. M. PRICE.

MANUFACTURE OF CHEWING GUM.

APPLICATION FILED APR. 27, 1910.

992,590.

Patented May 16, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

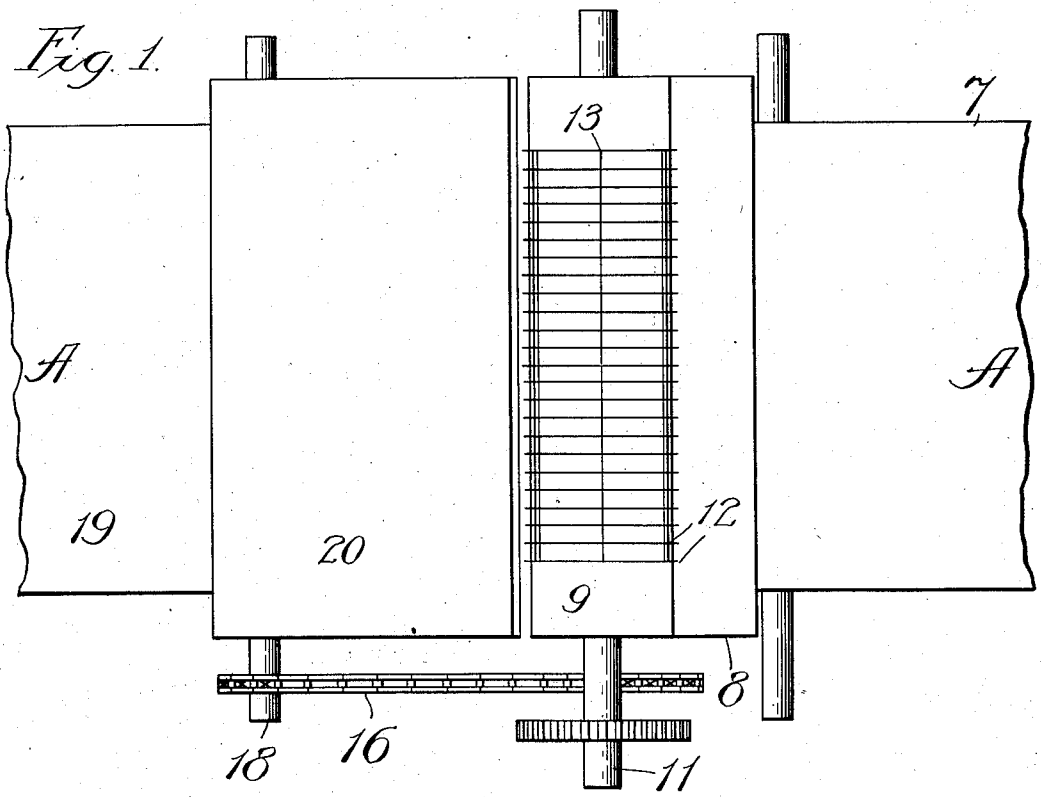
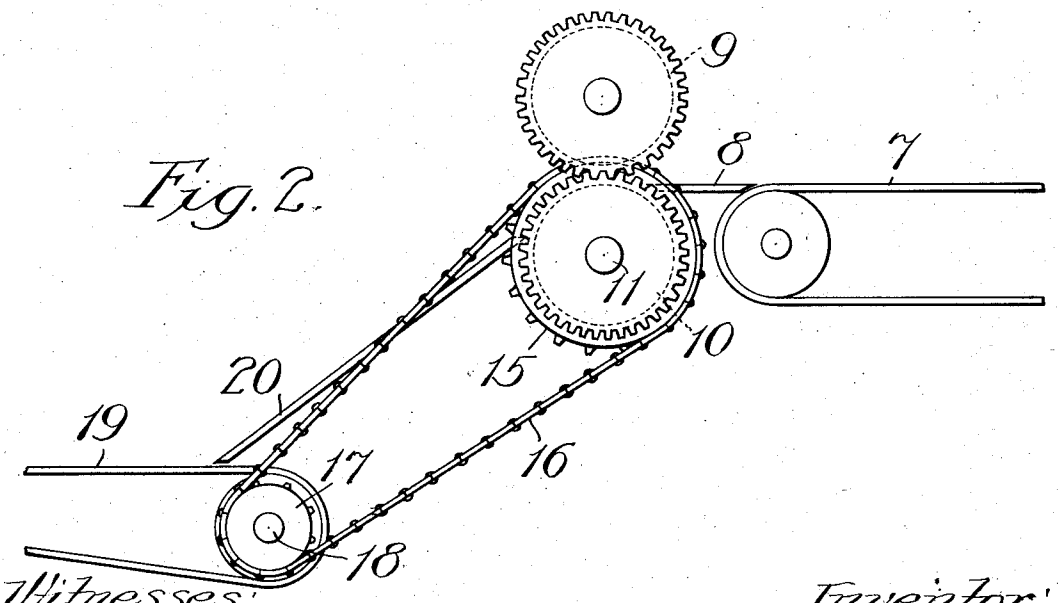


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

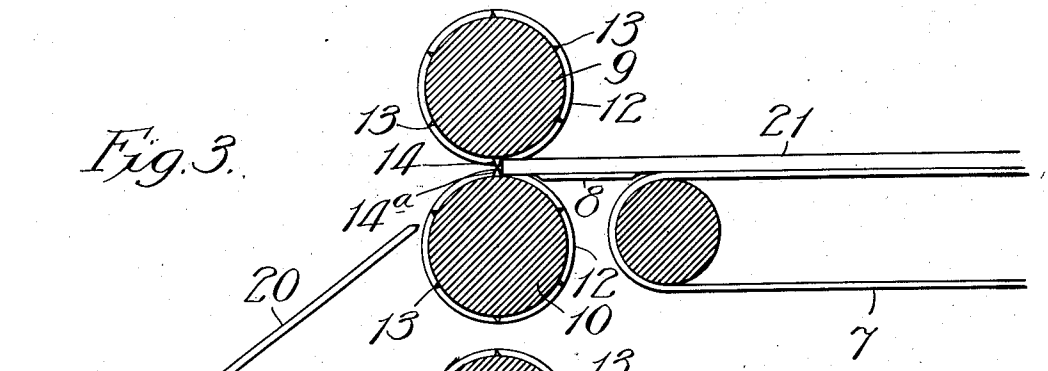


Fig. 4.

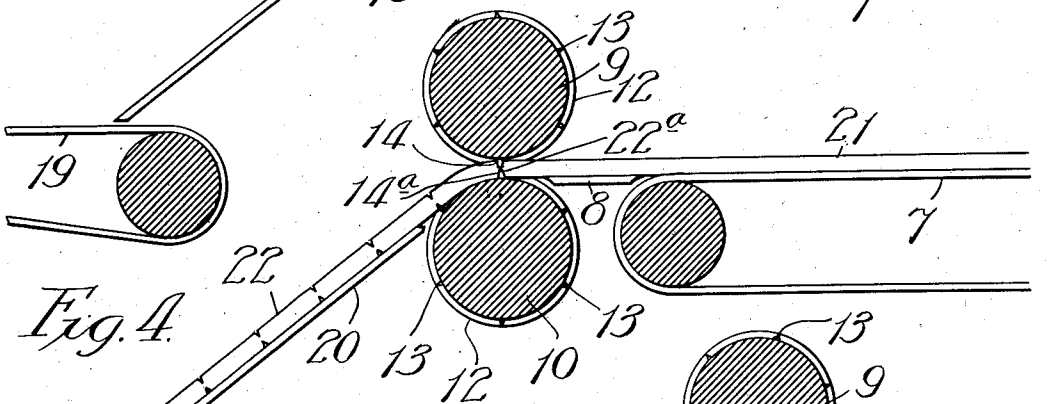


Fig. 5.

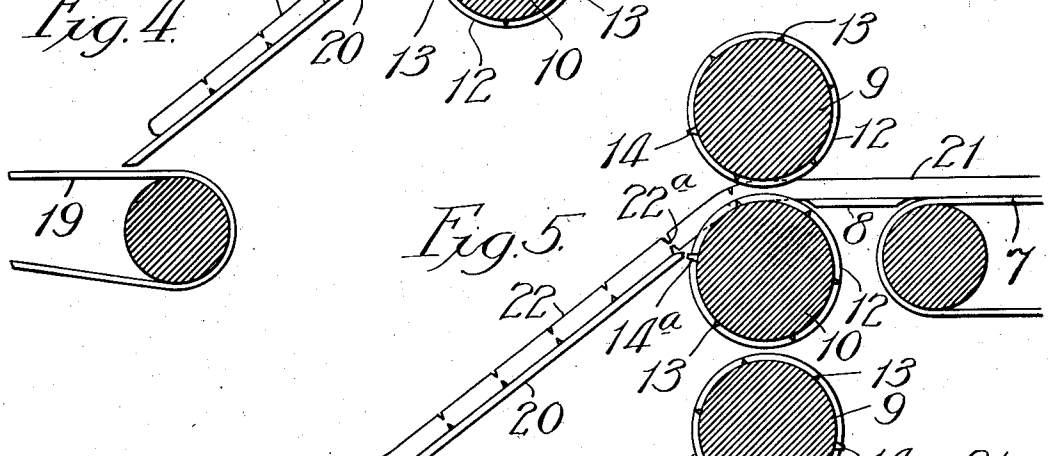
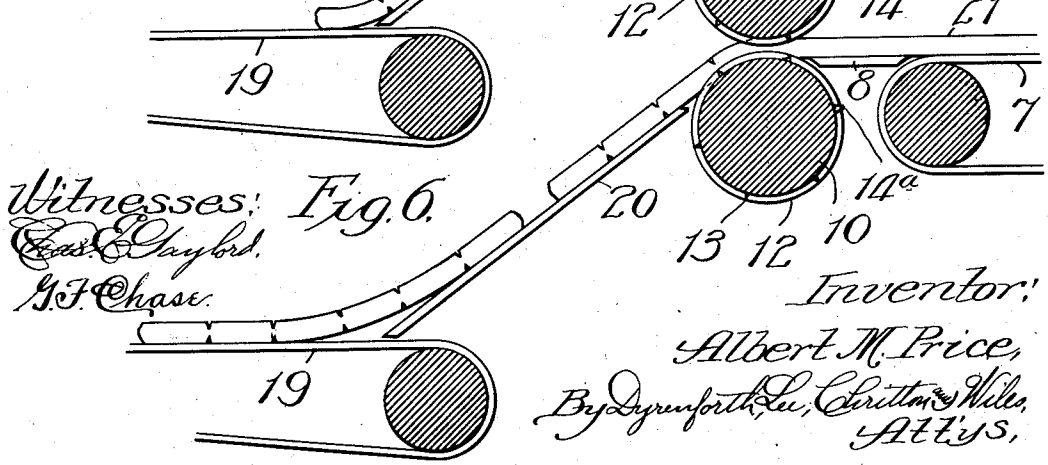


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALBERT M. PRICE, OF ELGIN, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WM. WRIGLEY, JR. COMPANY, A CORPORATION OF WEST VIRGINIA.

MANUFACTURE OF CHEWING-GUM.

992,590. Specification of Letters Patent. Patented May 16, 1911.

Application filed April 27, 1910. Serial No. 557,939.

To all whom it may concern:

Be it known that I, ALBERT M. PRICE, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented a new and useful Improvement in the Manufacture of Chewing-Gum, of which the following is a specification.

My invention relates to an improvement in severing into sections a sheet of plastic material which is fed, for the purpose, between cutting rolls.

Chewing-gum is the plastic material for which I have more particularly devised my improvement and in relation to which, therefore, it is hereinafter described; although it is equally useful for any other plastic sheet-material requiring to be severed into sections.

A procedure employed in the manufacture of chewing-gum involves rolling the mixture forming the mass to be sheeted, into a continuous sheet of the proper thickness for sticks of the gum, and feeding the sheet between rolls which score it into sticks and sever it at desired intervals to form smaller sheets or sections of convenient length for handling. The sections are dried and then broken up along the scoring lines to separate the sticks, which are then wrapped and packed to prepare them for the market. This procedure is rendered possible by my present improvement.

The primary object of my invention is to render the feed of the sheeted material past the cutting-rolls continuous by avoiding obstruction thereof in its course beyond the cutting point where the sections are taken off, in succession, by the delivering-means, thereby to prevent interruption in the desired continuity of the operation by disorganizing it as the result of such obstruction.

In the accompanying drawings, Figure 1 is a broken plan view showing the cutting and scoring rolls interposed between the sheet-feeding and section-delivery means employed for the practice of my improvement; Fig. 2 is a view of the same in side elevation, and Figs. 3 to 6 inclusive are views in longitudinal sectional elevation, the section being taken on line A—A, Fig. 1, illustrating progressively the coöperating action of the rolls and the delivery therefrom in carrying out my improvement.

In my pending application, Serial No. 529,253, filed November 22, 1909, for a sheet-gathering machine, substantially the same apparatus is shown and described as that herein illustrated.

The chewing-gum to be acted on is conveyed from ordinary sheeting-rolls (not shown) on an endless traveling apron 7, across a bridging guide-plate 8, to a pair of coöperating rolls 9 and 10; and the shaft 11 of the roll 10 is represented as the drive-shaft for the two rolls, shown geared together, and the delivery-device hereinafter described. Each of these rolls is provided with circumferential scoring-knives 12 and longitudinal scoring-knives 13, all of the same height, and with similar coöperating cutters 14 and 14ª of slightly greater height than the scoring-knives. The shaft 11 carries a sprocket-wheel 15 geared by a chain 16 to a sprocket-wheel 17, of smaller diameter, on the one shown of two similar roller-supporting shafts 18, nearest the scoring and cutting rolls and which carry an endless apron 19 for effecting delivery of the sheet-sections severed in the manner hereinafter described. An inclined guide-plate 20 bridges the space between the roll 10 and delivery-apron 19.

With the rolls 9 and 10 and the apron 19 in motion, and a sheet 21 of chewing-gum in plastic condition being fed by the apron toward the rolls, the advance-end of the sheet passes between the latter to be scored and advanced by their coöperating surfaces. The cutters 14 and 14ª, which are relatively disposed to coincide in each complete rotation of the rolls, do not meet to entirely sever the continuous sheet 21 passing between them, but only partially sever it, thereby leaving the partially-severed section 22 united to the continuous sheet by a thin web 22ª (Figs. 4 and 5). This is to overcome the tendency of the plastic material of the continuous sheet to adhere to the scoring-roll 10 and follow it about, when it would encounter, at its advance-end, the rear end of the guide-plate 20 and, by resultant clogging, disorganize the operation of the machine. By leaving the partially-severed section thus attached, in moving across the plate 20, to attain the apron 19, it lifts the advance-end of the continuous sheet over the receiving-end of the guide-plate; and since the manner illustrated of gearing the delivery-apron to the roll 10 drives the apron at greater

speed than the roll, the frictional action of the apron upon the partially-severed section exerts upon it sufficient drag to pull it apart, at the weak line or web 22^a, from the advance-end of the continuous sheet while the latter is still moving at the slower speed of the scoring and cutting rolls.

What I claim as new and desire to secure by Letters Patent is—

1. In the manufacture of chewing-gum, the method of severing from a sheet of the plastic material, of a section thereof, which consists in scoring the same on the desired line of severance to a depth less than the thickness of the sheet to form a relatively-thin, web-junction therewith, and completing the separation by pulling the section apart at the web while in a plastic condition.

2. In the manufacture of chewing-gum, the method of severing from a sheet of the plastic material a section thereof, which consists in moving said sheet at a relatively slow rate of speed and during such movement scoring the same on the desired line of severance, thereby forming a relatively-thin, web-junction with the sheet, and thereupon moving the scored section at a relatively-faster rate of speed to effect pulling it apart, at the web, from the sheet while in a plastic condition.

3. In the manufacture of chewing-gum, the method of severing from a sheet of the plastic material, a section thereof, which consists in moving said sheet at a relatively-slow rate of speed and during such movement scoring the same on the desired line of severance, thereby forming a relatively-thin, web-junction of such scored section with the sheet and thereupon subjecting the scored section to a frictionally-dragging action at a relatively faster rate of speed to effect pulling it apart, at the web, from the sheet.

ALBERT M. PRICE.

In presence of—
R. A. RAYMOND,
J. G. ANDERSON.